SIGNIFICANT HABITATS AND HABITAT COMPLEXES
OF THE NEW YORK BIGHT WATERSHED
South Fork Atlantic Beaches
COMPLEX #11

I. SITE NAME: South Fork Atlantic Beaches

II. SITE LOCATION: The South Fork Atlantic beaches are located along the southern coast of Long Island's South Fork about 140 kilometers (87 miles) east of the center of New York City and 40 kilometers (25 miles) west of Montauk Point.
TOWNS: East Hampton, Southampton
COUNTY: Suffolk
STATE: New York
USGS 7.5 MIN QUADS: Shinnecock Inlet, NY (40072-74), Napeague Beach, NY (40072-81), East Hampton, NY (40072-82), Sag Harbor, NY (40072-83)
USGS 30x60 MIN QUAD: Long Island, East, NY (40072-E1)

III. BOUNDARY DESCRIPTION AND JUSTIFICATION: The South Fork Atlantic beaches habitat complex boundary encloses the entire 27-kilometer (17-mile) stretch of sand beach, dunes, and associated bays from Halsey Neck Pond at the eastern end of Shinnecock Bay in Southampton east to the eastern edge of the Amagansett National Wildlife Refuge in East Hampton. The habitat boundary encloses the entire beach strand habitat from the ocean inland to the mainland or backbarrier ponds; this includes the foreshore, backshore, dunes, and interdunal areas as well as the nearshore waters extending offshore about 1/4 mile. The habitat complex also includes the aquatic habitats in Mecox Bay and other bays and ponds. This boundary encompasses nesting and feeding habitat for beach-nesting birds, rare beach and interdunal swale communities and plants, and wintering waterfowl habitat.

IV. OWNERSHIP/PROTECTION/RECOGNITION: Amagansett National Wildlife Refuge is a small (15-hectare [36-acre]) parcel of sand dunes and beach at the eastern end of this complex owned and managed by the U.S. Fish and Wildlife Service. The Nature Conservancy owns two preserves in this area, Atlantic Double Dunes Preserve and Mecox Dunes Preserves. There are also several small town-owned and village-owned parcels of beach in this area. The majority of the beaches in this habitat complex, however, are privately owned. Mecox, Sagaponack Pond, Georgica/Wainscott, and Amagansett have been designated and mapped as undeveloped beach units as part of the Coastal Barrier Resources System pursuant to the Coastal Barrier Resources Act, prohibiting federal financial assistance or flood insurance within these units. Parts of Amagansett have been designated and mapped as otherwise protected beach units pursuant to the Coastal Barrier Resources Act. Significant Coastal Fish and Wildlife Habitats designated by New York State Department of State include, from west to east: Mecox Bay and Beach, Sagaponack Inlet, and Atlantic Double Dunes. The New York State Natural Heritage Program, in conjunction with The Nature Conservancy, recognizes several Priority Sites for Biodiversity within the South Fork Atlantic Beaches habitat complex. These sites are listed here along with their biodiversity ranks: Atlantic Double Dunes (B3 - high biodiversity significance), Gin Lane Beach (B3), and Old Town Pond to Georgica Pond (B3).

V. GENERAL AREA DESCRIPTION: The South Fork of Long Island was formed by the deposition of the Ronkonkoma terminal moraine of the most recent (Wisconsin) glaciation. The beaches were formed as the result of erosion and riverine input from the mainland and marine deposition and reworking of sediments and end moraine deposits at Montauk Point. Unlike the Long Island beaches to the west of this habitat complex, which are separated from the mainland by large backbarrier lagoons such as Shinnecock Bay and Great South Bay, the beaches on the South Fork front directly on the mainland or are only minimally separated from the mainland by small ponds and bays. A series of small to medium-sized ponds occur along this stretch of beach, including from west to east: Halsey Neck Pond, Coopers Neck Pond, Agawam Lake, Old Town Pond, Wickapogue Pond, Phillips Pond, Sayre Pond, Jule Pond, Channel Pond, Mecox Bay, Sagaponack Pond, Wainscott Pond, Georgica Pond, Lily Pond, and Hook Pond. Most of these ponds are freshwater ponds typically with a fringing marsh of common reed (*Phragmites australis*), with the exception of Mecox Bay, Sagaponack Pond, Georgica Pond, and Hook Pond. The latter are brackish ponds that are breached intermittently to alleviate flooding and improve water quality.

The vegetation of the beach strand occurs in zones from the high tide line inland to the mainland. The backshore of the beach (high tide line to dunes) is sparsely vegetated by species such as sea rocket (*Cakile edentula*) and seaside spurge (*Euphorbia polygonifolia*). Just inland of this zone, at the toe of the dune, American beachgrass (*Ammophila breviligulata*) occurs along with dusty miller (*Artemesia steleriana*), beach pea (*Lathyrus japonica*), and saltwort (*Salsoli kali*). On the primary dunes, beachgrass is dominant along with seaside goldenrod (*Solidago sempervirens*); on the backside of the dunes, beach heather (*Hudsonia tomentosa*), bearberry (*Arctostaphylos uva-ursi*), and bayberry (*Myrica pensylvanica*) occur. Interdunal swales are wetlands that are formed where blowouts in the dunes intersect the water table and typical wetland plants such as sedges, rushes, herbs, and low shrubs become established. Characteristic species of these swale wetlands include twig-rush (*Cladium mariscoides*), purple gerardia (*Agalinis purpurea*), sundews (*Drosera* spp.), cranberry (*Vaccinium macrocarpon*), highbush blueberry (*Vaccinium corymbosum*), and bayberry. The upland transition zone at Atlantic Double Dunes has stands of shrublands/woodlands dominated by bayberry, shadbush (*Amelanchier canadensis*), arrowwoods (*Viburnum* spp.), and pitch pine (*Pinus rigida*). The beach along this stretch is generally bordered by light-density residential development and the adjacent watershed is dominated by agricultural and residential land use.

VI. ECOLOGICAL SIGNIFICANCE/UNIQUENESS OF SITE: The occurrence of undeveloped, mainland-fronting beaches is rare in the watershed, and the concentration of beach strand species is regionally important. There are 29 species of special emphasis in the complex, incorporating 22 species of birds, and including the following federally and state-listed species. (Living resources and their habitats are dynamic; therefore, the ecological significance and species information presented here may not be complete or up-to-date. State and federal environmental agencies (see Appendix III for office contacts) should be consulted for additional information.)

Federally listed endangered

peregrine falcon (*Falco peregrinus*)

finback whale (*Balaenoptera physalus*)

Federally listed threatened

loggerhead sea turtle (*Caretta caretta*)

piping plover (*Charadrius melodus*)
seabeach amaranth (*Amaranthus pumulis*)
State-listed endangered
least tern (*Sterna antillarum*)
State-listed threatened
northern harrier (*Circus cyaneus*)
osprey (*Pandion haliaetus*
State-listed special concern animals
eastern hognose snake (*Heterodon platirhinos*)
common loon (*Gavia immer*)
Coopers hawk (*Accipiter cooperii*)
short-eared owl (*Asio flammeus*)
State-listed rare plants
pine barren sandwort (*Minuartia [=Arenaria] caroliniana*)
The most characteristic and significant use of these beaches is by beach-nesting birds. The South Fork beaches are consistently used by small numbers of least terns and piping plovers: over the last five years (1991 to 1995) there has been an average of about 160 pairs of least terns and about 6 pairs of piping plovers nesting on these beaches. Least terns are spread out in a number of small nesting colonies in this area. The largest colonies of least terns and the most consistent use by piping plover generally occurs near the intermittent inlets to **Mecox Bay**, **Sagaponack Pond**, and **Georgica Pond**. Undeveloped intermittent inlets (areas that are subject to periodic breaching by storms or for management) are rare on Long Island. The least terns feed in the brackish and freshwater ponds behind the beach.
The globally rare seabeach knotweed (*Polygonum glaucum*) and the globally imperiled and federally listed threatened seabeach amaranth both occur on these beaches near Georgica Pond; the seabeach amaranth is also known to occur at **Gin Lane Beach**. The known extant populations are small and threatened by off-road vehicle use. Both of these species are annuals whose seeds are widely dispersed by both wind and water; therefore, stands and individual plants are likely to become established in appropriate protected habitat anywhere along this stretch of beach. Their specific year-to-year occurrences, however, are difficult to predict.
Atlantic Double Dunes is a large undeveloped beach and dune ecosystem with extensive dunes and maritime interdunal swale communities. These beaches, dunes, and swales support breeding by over 20 species of birds and several species of amphibians and reptiles, including Fowler's toad (*Bufo woodhousei fowleri*) and eastern hognose snake in the swales and surrounding uplands. Abundant small mammal populations, especially white-footed mouse (*Peromyscus leucopus*), provide prey for raptors that forage in the area during fall migration. Migrating raptors frequenting this area include American kestrel (*Falco sparvarius*), merlin (*Falco columbarius*), sharp-shinned hawk (*Accipiter striatus*), northern harrier, osprey, peregrine falcon, and Cooper's hawk (*Accipiter cooperii*). Northern harrier, merlin, and short-eared owl also feed in this area in the winter. Atlantic Double Dunes contains a very good example of a maritime interdunal swale community and supports rare plant species such as round-leaf boneset (*Eupatorium rotundifolium* var. *ovatum*) and pine barren sandwort.
The coastal ponds along this stretch of beach, especially the larger brackish ponds, support migrating and wintering waterfowl. Mid-winter aerial surveys in the ponds have tallied an average of over 5,000 Canada goose (*Branta canadensis*) annually, and lesser numbers (in descending order) of greater scaup (*Aythna marila*), American black duck (*Anas rubripes*),

common goldeneye (*Bucephala clangula*), mallard (*Anas platyrhynchos*), red-breasted merganser (*Mergus serrator*), and canvasback (*Aythna valisineria*). Canada geese are most abundant in Mecox Bay and fairly evenly spread out elsewhere in the complex in the other ponds. Winter population numbers depend on the degree of freeze-up in the bays and ponds. Nearby agricultural fields are an important source of food for the geese.
Wintering common loons and horned grebes are common in the **nearshore waters** off the beach. Marine mammals and sea turtles also utilize these nearshore waters. Minke whales (*Balaenoptera acutorostrata*) occur along the south shore of Long Island throughout the year but are more abundant in the summer. An inshore population of bottlenosed dolphin (*Tursiops truncatus*) feeds along Long Island's south shore from June through September. January through March, finback whales feed close to shore along the southern Long Island coast from Shinnecock Bay east to Montauk Point. Juvenile loggerhead sea turtles regularly use Shinnecock Bay in the summer and adults and juveniles occur in nearshore water all along Long Island's south shore.

VII. THREATS AND SPECIAL PROBLEMS: Nesting populations of colonial waterbirds and piping plovers on sand or gravel beaches in this area are especially vulnerable during the nesting season (April to August) to human-caused disturbances such as trampling or destruction of nests from beach-walking, picnicking, boat landings, off-road vehicle use, predation by dogs and cats, and unregulated dredged material disposal. Predation by foxes, gulls, and crows is also of concern in this area, and flooding of nests and subsequent loss and abandonment of nests can occur at spring high tides. Rare beach plants are also vulnerable to these disturbances. Because the nesting areas are spread out and many of them are on private land, it is difficult to fence, patrol, and use predator control in this area.

VIII. CONSERVATION RECOMMENDATIONS: Disturbances to wintering and nesting bird populations need to be minimized or eliminated entirely, particularly for colonial beach-nesting birds such as least terns and piping plovers. Human intrusions into beach nesting areas during the critical nesting season (April to August) should be prevented using a variety of methods, including protective fencing, posting, warden patrols, and public education. Because of the large degree of privately owned lands, public education and cooperative approaches with landowners are essential to successful protection of beach species in this area. A tern and plover steward for this stretch of beach, working cooperatively with landowners, might be appropriate. When determined to be a problem, as it is at most mainland-connected nesting beaches, predator control and/or removal should be instituted. Those tasks and objectives of the piping plover and seabeach amaranth recovery plans that are applicable to this area should be undertaken, including restoration or enhancement of degraded sites where appropriate. Fencing and protection of beach-nesting birds should be expanded to include protection for seabeach amaranth and seabeach knotweed, where appropriate.
Several large erosion control projects have been proposed for the south shore of Long Island. Consideration should be given to ensure that these projects recognize and maintain the dynamic nature of the beaches and natural processes such as overwash and breaching, the needs of the natural communities, and fish and wildlife species that occur in the nearshore waters, on the beach and dunes, and in the ponds and marshes. More information is needed on the impacts of various existing and proposed erosion control options, including groin fields, dune stabilization, and berm elevation projects, as well as inlet management on the beach resources, especially the federally listed threatened seabeach amaranth and piping plover and associated bay resources

before these projects proceed.

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